



Heart Healthy Firefighter

Laughter is the Best Medicine



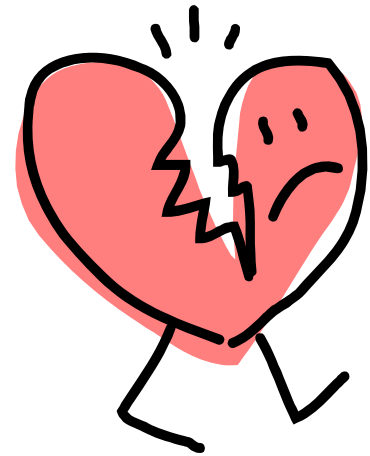
Laughter & Sense of Humor

- May protect against heart attacks
 - Why????
 - Mental stress
 - Impairment of blood vessel walls
 - Fat build up
 - Cholesterol buildup



Study

- University of Maryland
- 300 Subjects
 - 150 had heart disease
 - 150 without heart disease
- Results for Heart Disease Group
 - 40% less likely to laugh
 - Displayed more anger and hostility



Humor: How Does It Work?

- Superiority and power
- Hopeful attitude
- Perspective
- Emotional release



Benefits of Laughter

- Lowers blood pressure
- Reduces stress hormones
- Increases muscle flexion
- Boosts immune system
- Releases endorphins
 - Elevates mood



Lowers Blood Pressure

- Women >Men
- Reduces dopamine levels
- Reduces epinephrine levels



Muscle Relaxation

- Two stages
- During laughter
 - Unused muscles relax
- After Laughter
 - Muscles used relax



Reduction of Stress Hormones

- Epinephrine
- Dopamine
- Cortisol
- Growth hormone



Immune System Enhancement

- Increase Killer T-cells
- Increase T-lymphocytes
- Increase in IgA
- Increase in interferon
- Increase in IgB
- Increase in complement



Pain reduction

- Reduces pain
- Powerful distraction



Cardiac Exercise

- Aerobic activity
- Exercises the diaphragm
- Increase oxygen utilization



Respiration

- Deep inhalation
- Deep exhalation



Biggest Benefit of Laughter

- It is free
- No negative side effects

